WEBVTT

NOTE duration: ”00:03:10.309”

NOTE Confidence: 0.99853516

00:00:00.320 --> 00:00:00.819 Hello.

NOTE Confidence: 0.9495605

00:00:01.199 --> 00:00:03.300 I'm John Roberts. I'm a

NOTE Confidence: 0.9495605

00:00:03.360 --> 00:00:05.540 doctor and a clinical researcher.

NOTE Confidence: 0.90771484

00:00:06.879 --> 00:00:07.120 I'm,

NOTE Confidence: 0.94938153

00:00:08.559 --> 00:00:10.719 proposing to cures within reach

NOTE Confidence: 0.94938153

00:00:10.719 --> 00:00:11.780 that we repurpose

NOTE Confidence: 1

00:00:12.080 --> 00:00:12.820 the drug

NOTE Confidence: 0.99731445

00:00:13.285 --> 00:00:13.785 colchicine

NOTE Confidence: 0.9981166

00:00:14.565 --> 00:00:16.485 as a treatment for sickle

NOTE Confidence: 0.9981166

00:00:16.485 --> 00:00:17.225 cell disease.

NOTE Confidence: 0.9988281

00:00:18.005 --> 00:00:19.445 Sickle cell disease is an

NOTE Confidence: 0.9988281

00:00:19.445 --> 00:00:22.025 inherited disease characterized by anemia

NOTE Confidence: 0.93837196

00:00:22.404 --> 00:00:23.765 that is low red blood

NOTE Confidence: 0.93837196

00:00:23.765 --> 00:00:24.505 cell counts,

NOTE Confidence: 0.9865994

00:00:25.045 --> 00:00:27.205 acute and chronic pain, organ

NOTE Confidence: 0.9865994

00:00:27.205 --> 00:00:29.100 damage, and early death.

NOTE Confidence: 0.9088542

00:00:29.980 --> 00:00:31.900 Sickle cell disease affects millions

NOTE Confidence: 0.9088542

00:00:31.900 --> 00:00:33.580 with majority living in Sub

NOTE Confidence: 0.9088542

00:00:33.580 --> 00:00:34.560 Saharan Africa.

NOTE Confidence: 0.9478027

00:00:35.340 --> 00:00:36.860 Most in though in that

NOTE Confidence: 0.9478027

00:00:36.860 --> 00:00:38.620 location die before the age

NOTE Confidence: 0.9478027

00:00:38.620 --> 00:00:40.780 of five and survival is

NOTE Confidence: 0.9478027

00:00:40.780 --> 00:00:43.085 beyond thirty years is uncommon.

NOTE Confidence: 0.97957355

00:00:44.024 --> 00:00:45.305 Sickle cell disease is due

NOTE Confidence: 0.97957355

00:00:45.305 --> 00:00:47.405 to a mutation in hemoglobin.

NOTE Confidence: 0.9326172

00:00:48.265 --> 00:00:48.985 That's the,

NOTE Confidence: 0.9654541

00:00:49.545 --> 00:00:51.145 molecule in red blood cells

NOTE Confidence: 0.9654541

00:00:51.145 --> 00:00:51.625 that,

NOTE Confidence: 0.99148995

00:00:52.025 --> 00:00:53.805 binds and then releases oxygen

NOTE Confidence: 0.99148995

00:00:53.945 --> 00:00:54.525 to tissues.

NOTE Confidence: 0.9850871

00:00:55.790 --> 00:00:57.950 The mutation leads to red

NOTE Confidence: 0.9850871

00:00:57.950 --> 00:00:59.090 blood cell fragility,

NOTE Confidence: 1

00:00:59.470 --> 00:01:00.610 which leads to

NOTE Confidence: 0.97753906

00:01:01.309 --> 00:01:01.809 hemolysis,

NOTE Confidence: 0.90379226

00:01:03.309 --> 00:01:05.550 and anemia. And also the

NOTE Confidence: 0.90379226

00:01:05.550 --> 00:01:07.569 the hemolyzed red blood cells

NOTE Confidence: 0.9975586

00:01:08.175 --> 00:01:08.675 clump

NOTE Confidence: 0.98610616

00:01:09.215 --> 00:01:10.834 and then they can cause

NOTE Confidence: 0.98610616

00:01:10.975 --> 00:01:12.575 occlusion of very small blood

NOTE Confidence: 0.98610616

00:01:12.575 --> 00:01:13.075 vessels.

NOTE Confidence: 0.98876953

00:01:15.615 --> 00:01:17.455 So the primary processes are

NOTE Confidence: 0.98876953

00:01:17.455 --> 00:01:18.995 hemolysis and microvascular

NOTE Confidence: 0.87939453

00:01:19.455 --> 00:01:19.955 occlusions,

NOTE Confidence: 0.95737714

00:01:20.709 --> 00:01:22.150 but these lead to an

NOTE Confidence: 0.95737714

00:01:22.150 --> 00:01:24.550 important secondary process which is

NOTE Confidence: 0.95737714

00:01:24.550 --> 00:01:25.850 sterile inflammation,

NOTE Confidence: 0.9497884

00:01:26.790 --> 00:01:28.010 otherwise known as,

NOTE Confidence: 0.99886066

00:01:29.270 --> 00:01:30.870 activation of the innate immune

NOTE Confidence: 0.99886066

00:01:30.870 --> 00:01:31.370 system.

NOTE Confidence: 0.9561593

00:01:32.325 --> 00:01:34.565 We hypothesize that colchicine would

NOTE Confidence: 0.9561593

00:01:34.565 --> 00:01:35.705 reduce inflammation

NOTE Confidence: 0.9914202

00:01:36.165 --> 00:01:38.005 and improve outcomes in sickle

NOTE Confidence: 0.9914202

00:01:38.005 --> 00:01:38.744 cell disease.

NOTE Confidence: 0.98464626

00:01:39.845 --> 00:01:41.284 Colchicine is a drug of

NOTE Confidence: 0.98464626

00:01:41.284 --> 00:01:42.744 choice in several disorders

NOTE Confidence: 0.9556885

00:01:43.125 --> 00:01:45.465 of sterile inflammation, for example,

NOTE Confidence: 0.9556885

00:01:45.525 --> 00:01:46.025 gout

NOTE Confidence: 0.98795575

00:01:46.500 --> 00:01:47.720 and familial Mediterranean

NOTE Confidence: 0.6958008

00:01:48.020 --> 00:01:49.240 fever fever.

NOTE Confidence: 0.9316406

00:01:49.780 --> 00:01:51.300 It also is beneficial in

NOTE Confidence: 0.9316406

00:01:51.300 --> 00:01:51.800 atherosclerosis,

NOTE Confidence: 0.95295715

00:01:53.140 --> 00:01:55.300 which is another disease like

NOTE Confidence: 0.95295715

00:01:55.300 --> 00:01:56.660 sickle cell disease in which

NOTE Confidence: 0.95295715

00:01:56.660 --> 00:01:58.440 sterile inflammation is a secondary

NOTE Confidence: 0.95295715

00:01:58.500 --> 00:01:59.000 process.

NOTE Confidence: 0.9803467

00:01:59.755 --> 00:02:00.255 Colchicine

NOTE Confidence: 0.9868164

00:02:00.555 --> 00:02:01.295 is generic,

NOTE Confidence: 0.9660296

00:02:01.595 --> 00:02:03.515 inexpensive, and well tolerated in

NOTE Confidence: 0.9660296

00:02:03.515 --> 00:02:04.255 low doses,

NOTE Confidence: 0.99912107

00:02:04.555 --> 00:02:05.515 but it has never been

NOTE Confidence: 0.99912107

00:02:05.515 --> 00:02:07.055 studied in sickle cell disease.

NOTE Confidence: 0.9763997

00:02:08.474 --> 00:02:10.155 C reactive protein is a

NOTE Confidence: 0.9763997

00:02:10.155 --> 00:02:12.235 blood biomarker of inflammation that

NOTE Confidence: 0.9763997

00:02:12.235 --> 00:02:14.415 is chronically and acutely elevated

NOTE Confidence: 0.9078776

00:02:14.889 --> 00:02:15.870 in sterile inflammation,

NOTE Confidence: 0.99736327

00:02:16.250 --> 00:02:17.870 including in sickle cell disease.

NOTE Confidence: 0.9781669

00:02:18.330 --> 00:02:19.709 In a study in transgenic

NOTE Confidence: 0.9781669

00:02:19.930 --> 00:02:21.549 mice, we found that colchicine

NOTE Confidence: 0.9781669

00:02:21.690 --> 00:02:23.389 lowered c reactive protein.

NOTE Confidence: 0.9909411

00:02:23.930 --> 00:02:25.690 This suggests that colchicine might

NOTE Confidence: 0.9909411

00:02:25.690 --> 00:02:27.530 lower c reactive protein and

NOTE Confidence: 0.9909411

00:02:27.530 --> 00:02:28.970 improve the lives of people

NOTE Confidence: 0.9909411

00:02:28.970 --> 00:02:30.349 with sickle cell disease.

NOTE Confidence: 0.9426967

00:02:31.055 --> 00:02:32.575 A definitive trial of this

NOTE Confidence: 0.9426967

00:02:32.575 --> 00:02:33.955 concept would be a multicenter

NOTE Confidence: 0.9426967

00:02:34.174 --> 00:02:36.355 randomized placebo controlled trial

NOTE Confidence: 0.9506348

00:02:36.735 --> 00:02:37.935 which would cost tens of

NOTE Confidence: 0.9506348

00:02:37.935 --> 00:02:39.555 millions of dollars or more.

NOTE Confidence: 0.9990885

00:02:40.095 --> 00:02:41.135 This is not likely to

NOTE Confidence: 0.9990885

00:02:41.135 --> 00:02:42.495 be undertaken in the absence

NOTE Confidence: 0.9990885

00:02:42.495 --> 00:02:44.435 of preliminary evidence of effectiveness

NOTE Confidence: 0.9912807

00:02:45.150 --> 00:02:46.430 as well as the safety

NOTE Confidence: 0.9912807

00:02:46.430 --> 00:02:47.169 and tolerability

NOTE Confidence: 0.99505615

00:02:48.270 --> 00:02:48.930 of colchicine

NOTE Confidence: 0.9976632

00:02:49.310 --> 00:02:50.590 in people living with sickle

NOTE Confidence: 0.9976632

00:02:50.590 --> 00:02:51.330 cell disease.

NOTE Confidence: 0.9936361

00:02:52.030 --> 00:02:53.310 The next step then should

NOTE Confidence: 0.9936361

00:02:53.310 --> 00:02:54.910 be an early phase clinical

NOTE Confidence: 0.9936361

00:02:54.910 --> 00:02:57.169 trial to demonstrate that colchicine

NOTE Confidence: 0.8515625

00:02:57.470 --> 00:02:58.610 lowers c

NOTE Confidence: 0.9736328

00:02:59.575 --> 00:03:00.875 c reactive protein,

NOTE Confidence: 0.94278973

00:03:01.255 --> 00:03:02.135 a sign of,

NOTE Confidence: 0.8034668

00:03:02.855 --> 00:03:03.915 potential effectiveness,

NOTE Confidence: 0.9965376

00:03:04.294 --> 00:03:05.655 and that it is tolerable

NOTE Confidence: 0.9965376

00:03:05.655 --> 00:03:06.935 and safe in sickle cell

NOTE Confidence: 0.9965376

00:03:06.935 --> 00:03:07.435 disease.

NOTE Confidence: 0.99890137

00:03:07.895 --> 00:03:09.035 Thank you very much.